

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

---

EXTENSION SERVICE

BULLETIN B. 5

# Division of Correspondence Courses



"If You Cannot Attend the College, Let the College Come to You"

COLLEGE STATION, TEXAS

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*Please save this bulletin for future reference; the number printed is limited to actual demand. Address all communications to Secretary of Correspondence Courses.*



VON BOECKMANN-JONES CO., PRINTERS, AUSTIN, TEXAS  
1915

Correspondence Courses have been transferred to the Department of Agricultural Education.

The following courses only are being offered at the present time:

# STUDY COURSES IN AGRICULTURE TO BE OFFERED.

<u>No. of Course</u>	<u>No. of Lessons</u>
1 Elementary Agri. for Teachers, J. D. Blackwell---	20
2 Teaching of Agri. in H. S., Martin L. Hayes-----	10
3 Reorganization of R. S., Martin L. Hayes-----	10
11 Farm Gas Engines, E. C. Gee-----	10
22 Fertilizers & Soil Fertility, J. O. Morgan-----	16
23 Grain & Fiber Crops, M. H. Young-----	19
24 Forage Crops and their Culture, M. H. Young-----	20
25 Farm Management, S. A. McMillan-----	23
26 Cost Accounting, S. A. McMillan-----	10
61 Silos and Silage, J. W. Ridgway-----	6
62 Farm Dairying, J. A. Clutter-----	12
63 Cream Management & Butter Making, J. A. Clutter---	20
71 Elementary Mechanical Drawing, A. Mitchell-----	12
72 Advanced Mechanical Drawing, A. Mitchell-----	12
81 Magnetism & Electricity, O. B. Wooten-----	10
82 Electric Lighting & Wiring, F. C. Bolton-----	20
83 Elements of Telephony, J. H. Cannon-----	20
91 Elementary Entomology, S. W. Bilsing-----	13
92 Economic Entomology, S. W. Bilsing-----	20
111 Domestic Science, Miss Cornelia Simpson-----	10
112 Domestic Art, Miss Bernice Carter-----	8
113 Home Canning, Miss Bernice Carter-----	8
121 Plant Propagation, I. E. Cowart-----	7
122 Vegetable Gardening, A. T. Potts-----	16
126 Floriculture, F. W. Hensel, Jr.-----	12
131 Joinery, C. E. Hanson.	
132 Lumber & Wood Finishing, C. E. Hanson.	
137 Gin Equipment, H. E. Smith.	
140 Farm Poultry, T. J. Conway-----	20
151 Cotton Classing and Grading, J. B. Bagley-----	8

NOTE: Study course No. 140, Farm Poultry, is a general course given by Mr. T. J. Conway, instructor in Poultry Husbandry. There are 20 lessons and the testbook used is Lewis' "Productive Poultry Husbandry", price \$2.00. The text may be secured from Southern Book Depository, Dallas, Texas.

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## DIVISION OF CORRESPONDENCE COURSES.

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Clarence Ousley, Director of Extension Service.  
Sydney G. Rubinow, B. S. A., M. S., Secretary of Correspondence Courses.

### II. THE FACULTY OF CORRESPONDENCE INSTRUCTION.

J. B. Bagley, B. S., Professor of Textile Engineering.  
O. M. Ball, A. B., M. A., Ph. D., Professor of Biology.  
F. C. Bolton, B. A., Professor of Electrical Engineering.  
J. C. Burns, B. S. A., Professor of Animal Husbandry.  
H. M. Eliot, B. A., M. A., Advisor in Rural Economics.  
E. J. Fermier, M. E., Professor of Mechanical Engineering.  
M. L. Hayes, A. B., B. S. A., A. M., Professor of Agricultural Education.  
E. J. Kyle, B. S., B. S. A., M. S. A., Dean of the School of Agriculture; Professor of Horticulture.  
A. Mitchell, B. C. S., Professor of Drawing.  
J. O. Morgan, B. A., M. S. A., Ph. D., Professor of Agronomy.  
R. L. Morrison, A. B., M. A., Professor of Highway Engineering.  
W. Newell, B. S., M. S., Professor of Entomology and State Entomologist.  
J. W. Ridgway, M. S. A., Professor of Dairying.  
H. E. Smith, M. E., Professor of Steam Engineering.  
  
F. W. Bell, B. S. A., Associate Professor of Animal Husbandry.  
J. D. Blackwell, B. Pd., B. S. A., Associate Professor of Agricultural Education.  
L. B. Burk, B. S. A., Associate Professor of Animal Husbandry.  
J. H. Cannon, B. S., Associate Professor of Electrical Engineering.  
E. C. Gee, B. S., B. S. A., Associate Professor of Agricultural Engineering.  
S. A. McMillan, B. S., Associate Professor of Farm Management.  
J. C. Olsen, B. S. A., Associate Professor of Farm Terracing.  
A. T. Potts, B. S., Associate Professor of Horticulture.  
  
G. A. Geist, B. S., Assistant Professor of Drawing.  
H. E. Hayden, Jr., A. B., M. A., Assistant Professor of Biology.  
F. Hensel, M. S., Assistant Professor of Landscape Art and Floriculture.  
C. S. Tatum, B. S., Assistant Professor of Textile Engineering.  
C. A. Wood, B. S. A., Assistant Professor of Soils.  
O. B. Wooten, B. S., Assistant Professor of Electrical Engineering.  
  
R. Beach, B. S., Instructor in Electrical Engineering.  
S. W. Bilsing, B. S., A. B., M. A., Instructor in Entomology.  
A. Burton, B. S., Instructor in Drawing.  
H. Cassidy, A. B., A. M., Instructor in Biology.  
Miss Bernice Carter, State Agent in Home Demonstration.  
J. A. Clutter, B. S., Instructor in Dairy Husbandry.  
I. E. Cowart, M. S., Instructor in Horticulture.  
A. L. Darnell, B. S., Instructor in Dairying.  
J. H. Ehlers, A. B., Ph. D., Instructor in Botany.  
C. E. Hanson, A. B., B. S., Instructor in Mechanical Engineering.  
J. A. Herrington, B. S., Instructor in Mechanical Engineering, Superintendent of Shops.  
Mrs. Nat P. Jackson, Organizer of Rural Women.  
F. W. Kazmeier, Instructor in Poultry Husbandry.  
W. T. Magee, B. S. A., Instructor in Animal Husbandry.  
F. W. Redlich, B. S., Instructor in Drawing.  
E. L. Reed, A. B., Instructor in Biology.  
Miss Cornelia Simpson, Demonstrator in Home Economics.  
M. H. Young, B. S., Instructor in Farm Crops.



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## **DIVISION OF CORRESPONDENCE COURSES.**

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BY S. G. RUBINOW, M. S.

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### **FUNCTIONS OF AGRICULTURAL COLLEGES.**

Agricultural colleges have three distinct functions. One of these is the instruction of resident students of the college. The staff of professors and instructors are responsible for the efficiency of this function, assisted by the investigations and discoveries of their experiment station colleagues. A second function is the investigation of agricultural problems and conditions. The members of the experiment stations of the various colleges are in charge of this particular function. The third and most recent function consists in the dissemination of the latest and best agricultural information, as unearthed by the experiment station men and taught by the college staff, through the medium of the Extension Department, for the benefit of persons who cannot attend the colleges.

### **THE VALUE OF CORRESPONDENCE WORK.**

One of the most efficient lines of extension service is correspondence courses. Many thousands are obtaining an education today through the assistance of the State and the Federal government. A great many more are anxious to try. Those who are enrolled in correspondence work would take nothing for the instruction and information obtained in this way. Not only are the courses of informative value to the students, but they are also the media through which their ability as students is developed and concentrated. Correspondence courses place the students on their own responsibility; the value of the work depends upon the initiative and working ability of the student.

In as complex a business as farming, the experience of others, whether successful or not, is invaluable. Our own successes are surer and quicker when they are based upon the foundations of other successes, modified to suit our own conditions. There are thousands in Texas who would like to establish a personal relation between themselves and the men who represent the top-notch of their specialties in farming. A relation of this sort means the latest information and knowledge necessary to the success of your business; it represents painstaking investigation and labor; it stands for those factors that are the foundation of your line of farming or your particular mechanical trade! Teachers of agriculture and mechanic arts have a great deal to learn from farmers and practical mechanics. Farmers and mechanics have a great deal to learn from teachers. Let Correspondence Courses introduce you to each other.

### **FOR WHOM CORRESPONDENCE COURSES ARE INTENDED.**

Teaching various phases of agriculture and mechanic arts through correspondence has been tried and found to be successful. The very

nature of the work and the methods involved are such as to eliminate all but the most desirable class of students, that class of workers who take a personal interest in the work and who exhibit a marked enthusiasm for the results that they themselves obtain through their own effort. Ambition, perseverance and determination are the personal qualifications needed to produce excellent results with this method of education.

(1) Through correspondence courses the boy and girl on the farm who cannot attend college, are enabled to equip themselves with the information and knowledge so necessary for efficient workmanship and managerial success.

(2) Young men and women who feel that their school days are over, as far as regular attendance at some institution is concerned, can satisfy their aspirations by correspondence courses.

(3) To men and women of middle life who desire to know something more about the sciences of the farm and the industries of the home, in which they have been engaged for many years, the correspondence courses are a life-saving boon.

(4) Teachers find in correspondence courses a means of escape from rust and decay; it is their opportunity to become young again and to keep abreast of the times.

(5) The opportunity for specialization, the keynote to American success, is open to students of ability through correspondence, even though they are unable to attend college in person.

(6) Boys and girls who have completed the common-school course of study and who cannot at once attend high school or other preparatory schools.

(7) Men who have been trying farming on general lines, who have an interest in some special line of work, such as orcharding or dairying, and who wish to turn their attention to that special line.

(8) Men on the farm desiring to become more skilled in the arrangement of farm buildings, their location and construction; farm machinery, including stationary steam and gasoline engines, steam and gasoline tractors, farm woodworking and practical farm mechanics as applied to farm equipment.

(9) Young men preparing for the trades, as well as those engaged in the trades desiring to become more proficient.

(10) Capitalists and business men who are holding investments in lands and who should know how to make those investments grow in value.

### RESULT OF EXTENSION WORK.

Of the forty-eight agricultural colleges, representing so many States, that are engaged in extension work, twenty-four at the present time are giving courses in agriculture through correspondence. The Agricultural and Mechanical College of Texas has the honor of being one of the twenty-four. The realization of the tremendous significance of the art and science that clothes, feeds and shelters has brought on a wave of sincere interest in farming and farm life that will make it a fixed institution. The cry of "Back to the farm" has been changed to "Stay on the farm." The most important factor which is responsible for this

change in the attitude of the urban and commercial world to farming and the farmer, is the success of extension instruction, which is bringing the gospel of right farming and real farm life from the front door of the college to the open door of the farm house.

The Agricultural and Mechanical College of Texas is a part of the great educational system provided by the State and is open to all properly qualified students. There exists, however, in every community, as has been pointed out, a considerable class of persons who are unable to adjust themselves for some good reason to the formal system of education. Possessing capacity, ambition and purpose, they have a claim upon the State for the same educational opportunities that are afforded in the formal regime, and should be granted these opportunities. The Correspondence Division serves the needs of individuals in this situation and offers them effective individual instruction in various branches and subjects of industrial education, the education that clothes, feeds and supports. Instruction of this character can be pursued in strict accordance with the individual requirements of each student at his or her own home, with the results depending upon the individual capacity, ability and application of the student.

### METHOD OF INSTRUCTION.

In conducting instruction through correspondence it is realized that the most conscientious kind of study and teaching must be placed upon the work, in order to compensate for lack of personal class-room instruction. The very best text-books have therefore been chosen for the various courses, and wherever it has been possible, the personal knowledge and information of the instructors has been used, in place of the text-book, through the use of the typewritten or printed lecture.

The student is especially urged to supplement his lessons and assignments with as much personal experience as he can place upon the work; indeed, the student should always take advantage of every opportunity to ask questions of the instructor, making those questions as local and as personal as he can.

Assignments and lessons, together with questions, are sent out two at a time, so that the student may always have one set of assignments and lessons at home, while the other set is being sent to the College. The assignments are based on text-books or lectures, but continual reference should be made to bulletins and other material accompanying the course.

### HOW TO ENROLL FOR THE WORK.

Although no preliminary examination is required of applicants for farmers' reading and study courses, the College desires certain information concerning the fitness of the student for the work, and reserves the right to reject applicants who are not prepared to do the work. The applicant should fill out carefully the application blank that is inserted in this bulletin, and which is also mailed on request, and should return the blank, together with the enrollment fee, to the *Secretary of Correspondence Courses, College Station, Texas*. The fee should always be sent in the form of a postal or express money order; *no personal check*



*or currency will be accepted.* Students may not enroll for more than two courses at the same time.

### TEXT-BOOKS.

Whenever text-books are used with courses the title of the book and the name of the author are indicated in the description of the courses. Special arrangements have been made with the Exchange Book Store at College Station, to handle all books at the cheapest possible rate. A descriptive list of books and prices will be found in this bulletin. Send money order or postal order for books to the *Exchange Book Store, College Station, Texas.*

### GENERAL LITERATURE.

In addition to the text-books used for references, many of the courses refer constantly to bulletins, issued by a number of different agencies. For the most part these bulletins are sent free upon request or upon the payment of a small nominal charge. These bulletins are excellent sources of information and should be in the library of every farmer and student of agriculture. The list of bulletins used is as follows:

1. Farmers' Bulletins. Address U. S. Department of Agriculture, Washington, D. C.
2. Texas Experiment Station Bulletins. Address Director of Experiment Station, College Station, Texas.
3. Extension Bulletins. Address Director of Extension Service, College Station, Texas.
4. Texas Department of Agriculture. Address Commissioner of Agriculture, Austin, Texas.
5. Miscellaneous State College and Experiment Station Bulletins. Address Directors of Agricultural Colleges and Experiment Stations.

### LIBRARY ASSISTANCE.

A library is a storehouse of information, and students should consult it whenever the opportunity is presented. In many of the courses reference is made to authoritative books dealing with the topics under consideration. In many cases these books will be found in public libraries, but if not obtainable there, the librarian will in most cases be able to give information as to how and where they can be secured.

### FEES.

No fees are charged for the Reading Courses, either to individuals or clubs in this or other States.

A fee of \$1.00 is charged for enrollment in Study Courses. This fee must be renewed at the expiration of one year from date of enrollment. Students are advised not to enroll in more than two study courses at one time; but upon the satisfactory completion of courses selected, within one year, other courses may be selected without any extra fee. (Home Economics courses are free.)

Whenever laboratory material is sent out by the College to the student, an additional fee will be charged. (See description of courses.)

**GENERAL RULES AND REGULATIONS.**

1. Any person above the age of fourteen years may enroll for the farmers' and farm women's reading courses.
2. Any person above the age of sixteen years, possessing an elementary education, may enroll for the study courses.
3. Students may enroll at any time.
4. The courses are not transferable.
5. Each study course must be completed within one year.
6. There is no stated time in which the lessons must be sent in, but it is strongly recommended that they be sent in at regular intervals.
7. If a student fails to pursue work regularly, unless excused by illness or other unusual circumstances, such student will be dropped from the enrollment.
8. If a student fails to complete a study course within one year and is still desirous of completing the work, such a student must re-enroll, and pay a fee of \$1.00.
9. If a student fails to do satisfactory work in any study course, upon the recommendation of the instructor in charge of the work, such student will be dropped from the enrollment.
10. When a course has been designated as a prerequisite to another, it is recommended that the student pursue work as outlined, unless such student can satisfactorily show that he or she is equipped to take up the work desired, irrespective of prerequisites.

**GROUP CLASSES.**

As an aid to students in correspondence courses study clubs may be formed in various localities. These clubs will bring correspondence students together and encourage a spirit of mutual community improvement among them. Organizations of this sort not only make the work pleasanter but much more valuable, as a general discussion among the members of such classes will bring out a greater number of views and opinions, and a greater amount of good will result. If such classes and clubs are organized upon a definite basis, and interest is manifested in the work, it may be possible for the College to supply a lecturer from its faculty to meet with the club and assist in furthering the work. The *Secretary of Correspondence Courses* invites correspondence in regard to the formation of such clubs or classes and will be glad to help in their organization. Farmers' Clubs and Organizations, Diversification and Marketing Clubs, Farm Women's Clubs, Young Women's Christian Associations, Young Men's Christian Associations, Farmers' Unions, Community Welfare Clubs and all other organizations will find such classes easily formed.

(NOTE.—When ten or more students organize and meet in groups or classes, the study course enrollment fee will be reduced to 50 cents per year for every individual in such a class.)

### TYPES OF COURSES OFFERED.

At the present time two types of correspondence courses are offered by the Agricultural and Mechanical College of Texas. Those available now are:

1. Farmers' Reading Courses; Farm Women's Reading Club Courses.
2. Study Courses.

The basic principle of Farmers' Reading Courses and Farm Women's Reading Club Courses is simplicity. They are leisure time courses. They do not require much preparation. They are *free* to all residents of this and other States.

Study Courses are thorough, practical courses, requiring a good deal of preparation and study. They are accompanied by assignments and questions. They bear an enrollment fee of \$1.00 a year. A certificate of merit is given upon the satisfactory completion of a number of Study Courses. (See credits.)

### CREDITS.

1. Farmers' Reading Courses and Farm Women's Reading Club Courses carry no credits.
2. The satisfactory completion of two lessons in a Study Course will entitle the student to one unit of credit. When the student obtains 50 units of credit he will be presented with a Certificate of Merit, recognizing the work which has been done. (Example: Course No. 2, 12 lessons, equals 6 credits.)

### HOW THE STUDENT SHOULD PREPARE THE LESSON.

The correspondence course student's ability to pursue work and produce results is determined largely by his own initiative and energy. The student should always remember that he is getting out of the work exactly what he is putting into it.

Upon receiving the first assignment, the student should carefully read all the material and then with absolutely no reference to the printed matter, should attempt to answer the questions asked. The assignment should be gone over in like manner a number of times, and each time the student should try to apply the information thus learned to local conditions or in a personal way. When the lesson is thoroughly understood and learned, it should be applied to the questions in the student's best English and in the most careful manner.

These lessons and answers should then be mailed to the *Secretary of Correspondence Courses, College Station, Texas*, who will deliver them to the instructors in charge of the work, for correction and grading. The corrected paper, accompanied by necessary explanations and suggestions, together with the next lesson, will then be returned to the student.

### POINTS TO BE REMEMBERED IN SENDING IN MATERIAL.

1. Use paper of uniform size. (Paper, 11x8, will do very nicely and can be procured at any book store, or from the *Exchange Book Store, College Station, Texas*.)

2. Use ink.
3. Write only on one side of the paper.
4. Leave margin for corrections.
5. Pay special attention to spelling and grammatical construction.
6. Express your thoughts in your own words. Do not employ stereotyped phrases found in the text.
7. Answer each question clearly, concisely, fully and to the point.
8. When sending questions, list such questions in their numerical order on a separate page.
9. Use the special envelope accompanying each lesson for returning the material.
10. Fill in carefully the special identification blank, accompanying each lesson, which is as follows:

Name of student.....  
 Address .....  
 No. course.....Lesson No.....  
 Date .....  
 (This blank will be returned with this additional information.)  
 Date received by Correspondence Division.....  
 Graded by .....  
 Date .....Grade .....

### SPECIAL NOTICE.

*These courses are offered at a nominal charge to the general public, interested in such work, with the expectation that the public will respond in appreciation. The College especially wishes students of the class that will take the work because they need it and because they have a desire for it, and the College hopes that it will enroll in these courses only those students who will carry the work to completion. No students are desired who are not genuinely and personally interested. Because of the fact that these courses are open to all persons, the College reserves the right to drop from its enrollment those students, who show by the character of their work that they are not sufficiently interested in it.*

### ENUMERATION OF COURSES.

#### *Farm Women's Reading Club Courses.*

These courses have been prepared by Mrs. Nat P. Jackson, Organizer of Rural Women, and are intended for rural women meeting in clubs or classes. Every lesson includes a definite program of discussion for the members of the club and an especially prepared paper by Mrs. Jackson. All persons interested in these courses should write Mrs. Nat P. Jackson, College Station, Texas, and obtain her aid in effecting an organization of such a club or class. (These courses are free and are now ready.)

- Course 1. The Upbuilding of the Home..... 4 lessons.  
 Lesson 1. Texas Farm Homes.  
 Lesson 2. True Neighborliness.  
 Lesson 3. Conveniences on the Farm.  
 Lesson 4. Health on the Farm.

- Course 2. Children on the Farm..... 4 lessons.  
 Lesson 1. Child Study.  
 Lesson 2. The Boy on the Texas Farm.  
 Lesson 3. The Girl on the Texas Farm.  
 Lesson 4. Fun for Young Folks.
- Course 3. Money on the Farm..... 4 lessons.  
 Lesson 1. Money Making by Farm Women.  
 Lesson 2. Poultry on the Farm.  
 Lesson 3. Butter Making on the Farm.  
 Lesson 4. Cheese Making on the Farm.
- Course 4. Farm Cooking ..... 4 lessons.  
 Lesson 1. Farm Cooking.  
 Lesson 2. Farm Cooking (2).  
 Lesson 3. Canning on the Farm.  
 Lesson 4. Preserving and Jelly Making on the Farm.
- Course 5. The Home Beautiful..... 4 lessons.  
 Lesson 1. The Texas Farm Garden.  
 Lesson 2. Home Beautification.  
 Lesson 3. Flowers.  
 Lesson 4. Orchards.
- Course 6. Odd Times on the Farm..... 4 lessons.  
 Lesson 1. Reading.  
 Lesson 2. Handiwork.  
 Lesson 3. Buying for the Farm.  
 Lesson 4. Company on the Farm.

### *Farmers' Reading Courses.*

These courses have been prepared especially for the busy farmer who wishes to inform himself on various topics of scientific agriculture, during his leisure moments. (These courses are free.)

Course No. 1 is intended particularly for those who have come to Texas recently or for those who have lived in cities and are now contemplating following farming as a pursuit. This course gives in a very practical manner the most fundamental principles and facts associated with farming in Texas. Each chapter, consisting of four or five type-written pages, has been prepared by a specialist. (This course will be ready July 1, 1915.)

- Course 1. Homeseekers' Course .....20 lessons.  
 (Including the following):  
 Lesson 1. Agricultural Geography of Texas.  
 Lesson 2. The Climate of Texas.  
 Lesson 3. The Natural Resources of Texas.  
 Lesson 4. The History of Texas.  
 Lesson 5. Land Values in Texas.  
 Lesson 6. Homestead Law and Land Acts in Texas.  
 Lesson 7. Agricultural Production in Texas.  
 Lesson 8. Texas Soils.



- Lesson 9. Irrigation in Texas.
- Lesson 10. Drainage in Texas.
- Lesson 11. Systems of Farming in Texas.
- Lesson 12. Live Stock in Texas (Cattle, Horses, Hogs, and Sheep).
- Lesson 13. Horticultural Production in Texas.
- Lesson 14. Poultry in Texas.
- Lesson 15. Dairying in Texas.
- Lesson 16. Bees in Texas.
- Lesson 17. Agricultural Organizations in Texas.
- Lesson 18. Transportation Facilities in Texas.
- Lesson 19. Educational Facilities in Texas.
- Lesson 20. State and Government Aid to Farmers.

Course No. 2 includes a practical discussion of some of the most important farming topics treated especially from a Texas point of view. Each chapter, consisting of four to five typewritten pages, has been prepared by a specialist and great care has been taken to include only the most valuable and practical topics. (This course will be ready July 1, 1915.)

Course 2. Practical Farming .....20 lessons.  
(Including the following):

- Lesson 1. Soils.
- Lesson 2. Grain Crops.
- Lesson 3. Forage and Hay Crops.
- Lesson 4. Dairy Cattle.
- Lesson 5. Beef Cattle.
- Lesson 6. Hogs.
- Lesson 7. Horses and Mules.
- Lesson 8. Sheep.
- Lesson 9. Feeds and Feeding.
- Lesson 10. Poultry.
- Lesson 11. Vegetables.
- Lesson 12. Fruits.
- Lesson 13. Bees.
- Lesson 14. Farm Dairying.
- Lesson 15. Farm Pests.
- Lesson 16. Farm Machinery.
- Lesson 17. Farm Management.
- Lesson 18. Farm Records and Accounts.
- Lesson 19. Marketing and Co-operation.
- Lesson 20. Good Roads.

Course No. 3 is a specialized course on Farm Terracing that has been prepared by Professor J. C. Olsen and is intended for farmers who want practical, easily understood information on remedies for the washing away of soils. This course is especially applicable to Texas soils. (This course is now ready.)

- Course 3. Farm Terracing ..... 6 lessons.  
 (Including the following):  
 Lesson 1. The Necessity for Terracing.  
 Lesson 2. Causes of Erosion.  
 Lesson 3. Types of Terraces.  
 Lesson 4. Terracing Instruments.  
 Lesson 5. Laying off a Mangum Terrace.  
 Lesson 6. Redemption of Gullied Land.

(Other Reading Courses will be announced from time to time, in special supplements to this bulletin.)

### STUDY COURSES.

These courses are practical, thorough, informative courses, based on text-books and typewritten lectures, each course prepared by a specialist. A set of assignments and questions accompany every course, which the student is asked to prepare and send in for correction at regular intervals. Numerous bulletins and other books are quoted as references. For every two lessons completed satisfactorily, one unit of credit is given and upon obtaining 50 credits, the student is presented with a Certificate of Merit. Students in Study Courses are charged an enrollment fee of \$1.00 a year. (See credits, fees, rules and regulations.) (See description of courses for date of availability.)

#### *Agricultural Education.*

		Lessons.	Credits.
No. 1.	Elementary Agriculture for Teachers.....	20	10
No. 2.	Teaching of Agriculture in the High School....	10	5
No. 3.	Reorganization of Rural Schools.....	10	5
No. 4.	School Discipline .....	10	5
No. 5.	Methods and Management for the Rural Teacher	10	5

#### *Agricultural Engineering.*

No. 11.	Farm Gas Engines.....	10	5
No. 12.	Farm Irrigation .....	8	4
No. 13.	Farm Drainage .....	8	4

#### *Agronomy.*

No. 21.	Soils .....	12	6
No. 22.	Fertilizers and Soil Fertility.....	16	8
No. 23.	Grain and Fiber Crops.....	19	9½
No. 24.	Forage Crops and Their Culture.....	20	10
No. 25.	Farm Management .....	23	11½
No. 26.	Cost Accounting .....	10	5

#### *Animal Husbandry.*

No. 31.	Beef Cattle Production.....	12	6
No. 32.	Sheep Production .....	10	5
No. 33.	Hog Production .....	12	6
No. 34.	Horse and Mule Production.....	9	4½

*Biology.*

Lessons. Credits.

No. 41.	Farm Sanitation .....	10	5
No. 42.	Plant Biology .....	24	12
No. 43.	Animal Biology .....	24	12

*Dairy Husbandry.*

No. 61.	Silos and Silage.....	6	3
No. 62.	Farm Dairying .....	12	6
No. 63.	Creamery Management and Butter Making....	20	10

*Drawing.*

No. 71.	Elementary Mechanical Drawing.....	12	6
No. 72.	Advanced Mechanical Drawing.....	12	6

*Electrical Engineering.*

No. 81.	Magnetism and Electricity.....	10	5
No. 82.	Electric Lighting and Wiring.....	20	10
No. 83.	Elements of Telephony.....	20	10

*Entomology.*

No. 91.	Elementary Entomology .....	13	6½
No. 92.	Economic Entomology .....	20	10

*Extension Service.*

No. 101.	Marketing and Co-operation.....	20	10
No. 102.	Agricultural Economics.....	20	10
No. 103.	Rural Credit .....	10	5
No. 104.	Agricultural Journalism .....	10	5

*Home Economics.*

No. 111.	Domestic Science .....	10	5
No. 112.	Domestic Art .....	8	4
No. 113.	Home Canning .....	8	4

*Horticulture.*

No. 121.	Plant Propagation .....	7	3½
No. 122.	Vegetable Gardening .....	16	8
No. 123.	Fruit Growing .....	10	5
No. 124.	Subtropical Fruits .....	10	5
No. 125.	Nut Culture .....	10	5
No. 126.	Floriculture .....	12	6

*Mechanical Engineering.*

No. 131.	Joinery .....	—	—
No. 132.	Lumber and Wood Finishing.....	—	—
No. 133.	Cabinet Making and Design.....	—	—
No. 134.	Elementary Carpentry for Rural Communities —	—	—

## Lessons. Credits.

No. 135.	Elementary Building Construction.....	—	—
No. 136.	Shop Mathematics .....	—	—
No. 137.	Gin Equipment .....	—	—

*Poultry Husbandry.*

No. 141.	Poultry and Poultry Breeding.....	10	5
No. 142.	Poultry Houses and Housing.....	10	5
No. 143.	Poultry Appliances and Yarding.....	10	5
No. 144.	Poultry Feeds and Feeding.....	10	5
No. 145.	Egg Production and Marketing.....	10	5
No. 146.	Meat Production and Marketing.....	10	5
No. 147.	Natural and Artificial Incubation.....	10	5
No. 148.	Brooding and Feeding of Chicks.....	10	5
No. 149.	Diseases and Parasites; Prevention and Remedies .....	10	5
No. 150.	Fancy Poultry .....	10	5

*Textile Engineering.*

No. 151.	Cotton Classing and Grading.....	8	4
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**DETAILED DESCRIPTION OF STUDY COURSES.***Department of Agricultural Education.*

**COURSE 1.** *Elementary Agriculture for Teachers.* 20 lessons. 10 credits. Prof. J. D. Blackwell.

In this course will be given only the fundamental principles of agriculture, together with a brief study of rural conditions. The work will consist largely of assigned readings and practicums to be prepared in connection with the text. Laboratory equipment and methods to be used in the teaching of agriculture will be given consideration. While this course is especially designed for teachers in rural schools who desire to study agriculture with the expectation of teaching the subject, it is also adapted to the needs of grade teachers and will prove interesting and instructive to those who desire only a general knowledge of the subject. (This course will be ready July 1, 1915.)

Text: "Fundamentals of Farming and Farm Life" by Kyle and Ellis.

**COURSE 2.** *Teaching of Agriculture in the High School.* 10 lessons. 5 credits. Prof. M. L. Hayes.

The purpose of this course is to help high school teachers of agriculture appreciate the great opportunities that lie before them for effective work with pupils and communities, and to solve some of the difficult problems that face teachers of agriculture. Such subjects as the organization of the course, the equipment of the course, suitable experiments, the use of the farm, project work, extension work, text-books, reference works, etc., are discussed in detail. (This course will be ready July 1, 1915.)

Text: "Materials and Methods of Agriculture" by Hummel.

COURSE 3. *Reorganization of Rural Schools.* 10 lessons. 5 credits. Prof. M. L. Hayes.

The purpose of this course is to discover greater fields for the rural school and ways and means of improving it. Such subjects as changes in rural life, new demands upon the rural school, the school as a community center, the consolidated school, the new curriculum, building and equipment, the new administration and supervision of the rural school, etc., are discussed at length. The course is valuable for county superintendents, rural teachers, and all interested in the improvement of rural education. (This course will be ready July 1, 1915.)

Text: "Better Rural Schools" by Betts and Hall.

COURSE 4. *School Discipline.* 10 lessons. 5 credits. Prof. M. L. Hayes.

The purpose of this course is to inquire into the theory of discipline, the relation between school activities and discipline, and to deal with specific ways and means of securing discipline. Emphasis will be given to the new kind of school discipline. (This course will be ready September 1, 1915.)

Text: "The Discipline of the School" by Moorehouse.

COURSE 5. *Methods and Management for the Rural Teacher.* 10 lessons. 5 credits. Prof. J. D. Blackwell.

This course will include, among other things, the qualifications and professional growth of the teacher; the aim and organization of the school, course of study, daily program, etc.; management of the rural school, together with methods of increasing efficiency in the teaching of different subjects—special stress being given to the teaching of agriculture. The course should prove very beneficial to young teachers and teachers of agriculture who feel the need of helpful suggestions. (This course will be ready September 1, 1915.)

Text: "The Teacher and the School" by Colgrove.

#### *Department of Agricultural Engineering.*

COURSE 11. *Farm Gas Engines.* 10 lessons. 5 credits. Prof. E. C. Gee.

This course will treat of the practical application of the gas engine to farm work. Instruction will be given in gas engine operation, installation of farm power plants, care and repair of farm gas engines. The student will learn through descriptive material and problems the method of testing ignition systems, testing the power of the engine, testing the economy of the fuel requirements, and methods of determining the size or horse power required for any specific work, and methods of figuring speed and size of pulleys. Traction and brake or belt horse power will also be included in this course. Reports of the Reclamation Commission of Texas will be reviewed. (This course will be ready July 1, 1915.)

Text: "Farm Gas Engines" by Putnam.



COURSE 12. *Farm Irrigation*. 8 lessons. 4 credits. Prof. E. C. Gee.

This course will treat of the irrigation of farms with special emphasis to Texas conditions. Detailed instruction will be given in the manner of designing, laying out and constructing irrigation systems. Proper drainage and the handling of seepage water will be discussed and remedies suggested. Problems dealing with the amount of water required for different crops will be solved along with the carrying capacities of ditches, flumes, etc. Methods of designing and installing sub-irrigation systems will be studied. The reports of the State Board of Water Engineers will be reviewed to familiarize the student with Texas laws governing the use of irrigation water in Texas. (This course will be ready July 1, 1915.)

Text: "Principles of Irrigation Practice" by Widtsoe.

COURSE 13. *Farm Drainage*. 8 lessons. 4 credits. Prof. E. C. Gee.

This course will treat of the practical drainage of farm land. Complete and detail instruction will be given in methods of designing, laying out and installing tile drain systems. Problems will be given that will teach the students the methods of determining the size of tile drains required, the number of acres a certain size tile will drain, the depth at which tile should be placed, etc. Open ditch drainage will also be discussed, and problems will be given to determine the carrying capacity of ditches and the number of acres that certain size ditches will drain. The drainage laws of Texas will also be reviewed, so that the student may learn how drainage systems may be formed. (This course will be ready July 1, 1915.)

Text: "Engineering for Land Drainage" by Elliott.

#### *Department of Agronomy.*

COURSE 21. *Soils*. 12 lessons. 6 credits. Prof. C. A. Wood.

This course gives an elementary discussion of the formation of soils and their physical properties, including such subjects as soil moisture, soil temperature, aeration, benefits and methods of tillage, the use of farm manures and the benefits of crop rotation. This course is recommended as a prerequisite to Course No. 22. (This course will be ready July 1, 1915.)

Text: "Soils" by Burkett.

COURSE 22. *Fertilizers and Soil Fertility*. 16 lessons. 8 credits. Prof. J. O. Morgan.

This course deals with the factors that determine the productive capacity of different soils, discussing in simple language, the use of commercial fertilizers and other agencies for improving the condition of the land. Course No. 21 must be taken as a prerequisite and completed satisfactorily before student will be allowed to enroll for this course. (This course will be ready July 1, 1915.)

Text: "Soil Fertility and Fertilizers" by Halligan.

COURSE 23. *Grain and Fiber Crops.* 19 lessons. 9½ credits. Instructor M. H. Young.

This course consists of the discussion of approved methods of cultivating, seeding, fertilizing, and harvesting grain and fiber crops with special reference to Texas conditions. Some attention will also be given to questions of seed selection and seed breeding, and the principal grain and fiber crops grown in the South, including cotton, corn, kaffir corn, milo maize, feterita, etc., will be taken up in detail. (This course will be ready September 1, 1915.)

Text: "Southern Field Crops" by Duggar.

COURSE 24. *Forage Crops and Their Culture.* 20 lessons. 10 credits. Instructor M. H. Young.

This course deals specifically with the forage crops adapted for Texas, which may be used for the production of forage, to be fed green or cut and cured into hay. Detailed instruction in selecting the seed, method of planting, time of planting, fertilizers, harvesting and curing will be included for the following crops: The millets, sorghums, sudan grass, alfalfa, clovers, cowpeas, vetch, soybeans, peanuts, etc. (This course will be ready September 1, 1915.)

Text: "Forage Crops and Their Culture" by Piper.

COURSE 25. *Farm Management.* 23 lessons. 11½ credits. Prof. S. A. McMillan.

This course is designed to introduce the science of business into farming and to provide instruction for a business organization for the farm, and a correlation of all the enterprises on the farm. In this course are suggested methods of keeping accounts so as to determine the relative cost of production for the different kinds of crops. Attention is also given to methods of marketing various farm products, and various types of farming, together with the equipment necessary on different kinds of farms are discussed. (This course will be ready July 1, 1915.)

Text: "Farm Management" by Warren.

COURSE 26. *Cost Accounting.* 10 lessons. 6 credits. Prof. S. A. McMillan.

This course will deal directly with farm bookkeeping as applied to farm enterprises. Directions will be given for taking the farm inventory, for handling cash accounts, the usage of the trial balance, and will include among other topics the following: Work reports, machinery accounts, distribution of labor, interpretation of accounts, etc. A complete set of laboratory and practice assignments will accompany this course. (This course will be ready August 1, 1915.)

Text: Typewritten lectures and practice sheets.

#### *Department of Animal Husbandry.*

COURSE 31. *Beef Cattle Production.* 12 lessons. 6 credits. Prof. F. W. Bell.

This course will treat of the judging, feeding and breeding of beef cattle, with special references to the characteristics of the different types

and breeds. In feeding, the value of the most common kinds of feeds will be given with a discussion of their use. Among other topics will be taken up the questions of pedigrees, selection, inbreeding, and care and management. Instruction in using the score card and in judging for beef type will also be given. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 32. *Sheep Production*. 10 lessons. 5 credits. Prof. F. W. Bell.

This course will treat particularly of the feeding, care, management of sheep and their place in live stock farming. Emphasis will be placed upon the purpose and the adaptability of the different breeds. Methods of using the score card and instruction in judging will also be given. (This course will be ready September 1, 1915.)

Text: "Sheep Farming" by Craig.

COURSE 33. *Hog Production*. 12 lessons. 6 credits. Prof. L. B. Burk.

With special reference to preparing hogs for the market, this course will give a thorough discussion of the lard and bacon breeds, including judging, feeding and breeding. Special attention will be paid to the care and management of hogs, housing, feeding and selection. The various breeds will be thoroughly discussed, and among the other topics will be the following: Types, inbreeding, judging, purpose and adaptability. (This course will be ready September 1, 1915.)

Text: "Profitable Swine Husbandry" by Day.

COURSE 34. *Horse and Mule Production*. 9 lessons. 4½ credits. Instructor W. T. Magee.

This course will treat of the judging, feeding and breeding of horses and mules, including the characteristics of the different types and breeds. In feeding, the value of the most common kinds of feeds with their usage will be discussed. In breeding, the subject of pedigrees, selection, inbreeding, care and management of the stallion and mare will be treated. Instruction will also be given on unsoundnesses and methods of preparing horses for the show ring. (This course will be ready September 1, 1915.)

Text: "Productive Horse Husbandry" by Gay.

#### *Department of Biology.*

COURSE 41. *Farm Sanitation*. 10 lessons. 5 credits. Dr. O. M. Ball and Assistants.

In this course are discussed the elementary principles of hygiene, both personal and general. This course also includes a thorough discussion of the prevention of diseases caused by micro-organisms. Among other topics, the construction and operation of sanitary closets and septic tanks is emphasized. (This course will be ready September 1, 1915.)

Text: Typewritten lectures. (Special reference, "Principles of Hygiene" by Bergery.)

COURSE 42. *Plant Biology*. 24 lessons. 12 credits. Dr. O. M. Ball and Assistants.

This course is designed to aid teachers of plant life in the public and high schools. Among other topics considered are the following: The nature of the plant, mode of life, structure, elementary principles of classification, etc. Outlines of demonstrations and experiments to be given before the class will also be included in this course. (This course will be ready September 1, 1915.)

Text: "Essentials of College Botany" by Bessey. (8th edition.)

COURSE 43. *Zoology*. 24 lessons. 12 credits. Dr. O. M. Ball and Assistants.

In this course will be included a discussion of the biology of the animal, general life history, the structure of the invertebrate and of the vertebrate. Attention will be paid to principal classes of animals, including geographical distribution, and special attention will be paid to evolution. This course will also include outlines of practical dissections of types and is meant particularly for teachers of zoology and for the general student interested in biology. (This course will be ready September 1, 1915.)

Text: "General Biology" by Needham.

*Department of Dairy Husbandry.*

COURSE 61. *Silos and Silage*. 6 lessons. 3 credits. Prof. J. W. Ridgway.

The lessons in this course treat of the history of silos, the construction of cement, stave and other forms of silos; the machinery equipment necessary to put up ensilage, and the cultivation and harvesting of silage crops. Special emphasis will be placed upon the planting and growing of silage crops adaptable to Texas conditions, with particular reference to the feeding of silage to dairy cattle. (This course will be ready July 1, 1915.)

Text: "Modern Silage Methods" by Silver Manufacturing Company.

COURSE 62. *Farm Dairying*. 12 lessons. 6 credits. Instructor J. A. Clutter.

This course will comprise a study of the various breeds and types of dairy cattle, the selection of dairy cows from a production standpoint, the selection of dairy bulls, the raising of dairy calves, the management and feeding of dairy cattle and types of barns for dairy purposes. This course will also deal with the question of proper sanitary methods necessary to produce clean milk, giving some emphasis to the use of cream separators. (This course will be ready August 1, 1915.)

Text: "Dairy Cattle and Milk Production" by Eckles.

COURSE 63. *Creamery Management and Butter Making*. 20 lessons. 10 credits. Instructor J. A. Clutter.

This is an extremely practical course, designed especially for creamery men. It deals with the essential features of successful creamery man-



agement. Among other topics are discussed the following: Milk testing, cream ripening, commercial starters, butter making, moisture testing, separating, butter scoring and judging, milk and cream standardizing, etc. This course should prove to be of exceptional service to practical creamery men who want to better their products. (This course will be ready July 1, 1915.)

Text: "Butter Making and Dairy Arithmetic" by Meyer.

#### *Department of Drawing.*

COURSE 71. *Elementary Mechanical Drawing.* 12 lessons. 6 credits.  
Prof. A. Mitchell.

This is a course designed for those who want to become familiar with the use of drawing instruments and acquire sufficient knowledge and practice to enable the student to execute neat and accurate drawings. This course is general in character and will include among other exercises the following: Geometrical constructions, instrumental lettering, freehand lettering, surplus shading, projections, etc. Although this course has been especially prepared for public school teachers, it is entirely suitable for any beginner. (This course will be ready September 1, 1915.)

Text: Special assignments.

COURSE 72. *Advanced Mechanical Drawing.* 12 lessons. 6 credits.  
Prof. A. Mitchell.

This is a more technical course dealing specially with working drawings, and is intended to familiarize the student with some of the standards and conventions used by all draftsmen. This course will give the student a working idea of the construction of screw threads, bolts, gears, cams, etc., including the practice of making and reading drawings of building and machine structures. Course 71 or its equivalent is a prerequisite to this course. (This course will be ready September 1, 1915.)

Text: Special assignments.

#### *Department of Electrical Engineering.*

COURSE 81. *Magnetism and Electricity.* 10 lessons. 5 credits. Prof. O. B. Wooten.

This course is an elementary course discussing the fundamental principles of magnetism and electricity, and has been prepared especially for home study with the idea of interesting men in electrical industries who are not technically trained. Among some of the topics discussed in this course are the following: Magnetism, electro-magnetism, the telegraph, the telephone, current electricity, gold and silver plating, electric generators and motors, etc. This course is a prerequisite to Courses 81 and 83. (This course will be ready September 1, 1915.)

Text: "Elementary Magnetism and Electricity" by Jansky.

COURSE 82. *Electric Lighting and Wiring.* 20 lessons. 10 credits.  
Prof. F. C. Bolton.

As suggested by its title, this course is a practical course in electric lighting and wiring, designed especially with the idea of giving technical



information to men employed in the electrical field who lack technical knowledge. This course will discuss in detail, fundamental principles involved in the usage of current electricity. It is recommended that the student take Course 81 as a prerequisite or furnish evidence of equivalent training or preparation. (This course will be ready September 1, 1915.)

Text: "Electric Wiring" by Branch.

COURSE 83. *Elements of Telephony.* 20 lessons. 10 credits. Prof. J. H. Cannon.

This course in telephony is designed to meet the requirements of the average non-technical man with limited time, who wishes to secure as much as possible the supervision and guidance provided by a technical school. This course gives the theory and practice of all phases of telephone engineering, with particular attention to recent developments in automatic systems. Some of the special topics discussed are the installation, maintenance, and operation of all types of telephone systems, with concrete advice for overcoming telephone troubles. (This course will be ready September 1, 1915.)

Text: "Telephony" by McMeen and Miller.

#### *Department of Entomology.*

COURSE 91. *Elementary Entomology.* 13 lessons. 6½ credits. Instructor W. S. Bilsing.

This course is prepared especially for teachers of entomology and in general for those who are interested in the life history, structure and habits of insects. This course gives a detailed discussion of the structure, stages of growth and habitat of insects, and emphasis is placed upon outlines of orders, with directions for classifying. This course is a prerequisite to Course 92. (This course will be ready July 1, 1915.)

Text: "Elementary Entomology" by Sanderson and Jackson.

COURSE 92. *Economic Entomology.* 20 lessons. 10 credits. Instructor W. S. Bilsing.

This course is especially prepared to give instruction on methods of combating and destroying the injurious insect pests of crops. This course deals with the economic importance of combating the injuries and diseases caused by insects and outlines methods for determining the cause of such injuries and means for combating them. It is recommended that Course 91 be taken as a prerequisite. (This course will be ready July 1, 1915.)

Text: "Insect Pests of Farm, Garden and Orchard" by Sanderson.

#### *Department of Extension Service.*

COURSE 101. *Marketing and Co-operation.* 20 lessons. 10 credits. Mr. H. M. Eliot.

This course will treat of the fundamental principles of co-operation and marketing, with a thorough discussion of the various forms of agri-

cultural co-operation. Concrete examples will be given of buying, selling, producing, rural credit and self help associations as an example of agricultural co-operation and marketing. Use will be made of Texas examples as a supplement to the text. (This course will be ready July 1, 1915.)

Text: "Co-operation in Agriculture" by Powell.

COURSE 102. *Agricultural Economics*. 20 lessons. 10 credits. Mr. S. G. Rubinow.

This course will give a concrete discussion of the application of economics to farming, treating especially of farming as a business. Among some of the topics which will be discussed are the following: Combination of enterprises, choice of crops, the place of animal husbandry in the farm, farm equipment, factors of production, size of farms, relative profitableness, labor systems, credit systems, transportation, farm prices, rent, etc. (This course will be ready September 1, 1915.)

Text: Typewritten lectures.

(Special references.)

1. "Agricultural Economics" by Taylor.
2. "Rural Economics" by Carver.
3. "Elementary Economics" by Ely and Wicker.

COURSE 103. *Rural Credit*. 10 lessons. 5 credits. Mr. H. M. Eliot.

This course will treat of the most recent action in rural credit with an explanation of various systems of credit in European countries. Rural credit legislation will be described and concrete suggestions will be offered on how to organize for securing farm credit. The question of credit, as based upon various farm crops, will be also discussed. (This course will be ready September 1, 1915.)

Text: Typewritten lectures.

COURSE 104. *Agricultural Journalism*. 10 lessons. .5 credits. Mr. S. G. Rubinow.

The aim of this course will be to prepare students for writing articles for agricultural journals and magazines. Emphasis will be placed upon style and make up of articles, "leads," appropriate subjects, seasonal material, etc. The character of the leading agricultural papers and journals will be discussed with particular reference to the kind of material they desire. Students will be expected to prepare articles of various kinds and will be constantly referred to concrete examples in various publications. (This course will be ready September 1, 1915.)

Text: Typewritten lectures.

#### *Department of Home Economics.*

COURSE 111. *Domestic Science*. 10 lessons. 5 credits. Miss Cornelia Simpson.

The aim of this course is to give instruction in subjects which will enable the girl and woman in the farm home to provide the family with

the most wholesome and palatable food at a minimum expenditure of time, energy and material, and to prepare all surplus products for a high grade market. The following topics will be thoroughly discussed in this course:

1. Farm Home Sanitation.
  2. Economy of Time and Labor in House Work.
  3. Home Production and Preservation of Foods.
  4. Classification of Common Foods.
  5. Cereals and Potatoes.
  6. Vegetables and Fruits for the Table.
  7. Meat, Poultry and Fish.
  8. Eggs and Milk.
  9. Bread Making.
  10. Simple Desserts and Beverages. Planning Meals.
- (This course will be ready September 1, 1915.) (This course is free.)  
Text: Typewritten lectures.

COURSE 112. *Domestic Art*. 8 lessons. 4 credits. Miss Bernice Carter.

This course is designed to aid farm women in becoming acquainted with textile materials, including various phases of sewing, garment making, use of patterns, drafting, cutting, costume designing, hygiene of clothing, economics of dress, etc. A feature of this course will be the working designs of various patterns. (This will be ready September 1, 1915.) This course is free.

Text: Typewritten lectures.

(Special reference.)

"Shelter and Clothing" by Kinne and Cooley.

COURSE 113. *Home Canning*. 8 lessons. 4 credits. Miss Bernice Carter.

This course is designed to meet the increasing demands for a knowledge of home canning. The information in this course will lend itself readily to the employment of simple, practical methods of canning that may be used in every farm home, although the same principles discussed here may be used in commercial canning. The following topics will be thoroughly discussed:

1. Causes of Spoiling.
2. Methods of Canning.
3. Canning Vegetables.
4. Canning Fruits.
5. Fruit Juice and Vinegar.
6. Preserving.
7. Jelly-making.
8. Pickling.

Text: Typewritten lectures.

(Special references.)

"Foods and Household Management," by Kinne and Cooley.

"Bacteria, Yeasts and Molds in the Home" by Conn.

(This course will be ready September 1, 1915.) This course is free.

*Department of Horticulture.*

COURSE 121. *Plant Propagation.* 7 lessons. 3½ credits. Instructor I. E. Cowart.

This course is designed to meet the needs of nurserymen, fruit growers, and all those who desire to grow fruit and ornamental plants. Some attention will be given to the principles underlying the multiplication of plants, in so far as these are necessary to a better understanding of the reasons for the methods employed. Methods of grafting and budding will receive considerable attention. (This course will be ready September 1, 1915.)

Text: "Nursery Book" by Bailey.

COURSE 122. *Vegetable Gardening.* 16 lessons. 8 credits. Prof. A. T. Potts.

The home garden is an important institution in reducing the cost of living, and this course is especially designed for those who are interested in the growing of vegetables for home table use. Detailed instructions in planting, equipping and operating vegetable gardens for home and commercial purposes is given in this course. Special attention is also placed upon methods of construction and operation of cold frames and hot beds. (This course will be ready September 1, 1915.)

Text: "Garden Farming" by Corbett.

COURSE 123. *Fruit Growing.* 10 lessons. 5 credits. Instructor I. E. Cowart.

This course is intended primarily for two classes of students. First, those who know little or nothing of the subject, but who intend to engage in the industry and wish to avoid expensive mistakes. Second, for those who are already growing fruit but wish to improve their methods. The course covers all the operations of fruit growing from the choice and preparation of the land to the gathering and marketing of the crop. (This course will be ready September 1, 1915.)

Text: "Principles of Fruit Growing" by Bailey. (20th edition.)

COURSE 124. *Sub-Tropical Fruits.* 10 lessons. 5 credits. Prof. A. T. Potts.

This course includes a thorough, practical discussion of all sub-tropical fruits. All operations of sub-tropical fruit growing are considered, and special attention is given to location of groves, protection from colds and protection from diseases and insects. The Satsuma orange and fig are given special attention. (This course will be ready September 1, 1915.)

Text: "Citrus Fruits and Their Culture" by Hume.

COURSE 125. *Nut Culture.* 10 lessons. 5 credits. Instructor I. E. Cowart.

Designed especially with reference to nut culture in the South, this course gives instruction in the culture of the various nuts with special reference to pecans. Emphasis is placed upon Texas conditions. Considerable time is devoted to the different forms of budding and grafting

and the problem of top working our native wild pecans to the improved standard varieties. (This course will be ready July 1, 1915.)

Text: Typewritten lectures.

COURSE 126. *Floriculture*. 12 lessons. 6 credits. Prof. F. W. Hensel, Jr.

A thorough study is made in the course of our commoner garden and greenhouse flowers, with their cultural requirements; the construction of cold frames, hot beds and small greenhouses, and the proper laying out and planting of flower beds. (This course will be ready September 1, 1915.)

Text: Typewritten lectures.

*Department of Mechanical Engineering.*

COURSE 131. *Joinery*. — lessons. — credits. Instructor C. E. Hanson.

This course will give the student an opportunity for acquiring skill in handling the common tools used in woodwork and will give an acquaintance with the processes commonly taught in manual training as applied to bench work in wood. This course should prove to be of great value to teachers of manual training or to those preparing to teach manual training in public schools. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 132. *Lumber and Wood Finishing*. — lessons. — credits. Instructor C. E. Hanson.

This course will cover the manufacturing and seasoning of lumber, its measurement and grading, etc. Emphasis will be placed upon the following items in wood finishing: Preparation, staining, filling, varnishing, rubbing down, etc. This course should also prove valuable to teachers of manual training or those preparing to teach manual training in secondary institutions. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 133. *Cabinet Making and Design*. — lessons. — credits. Instructor C. E. Hanson.

This course will cover instruction in designing, the laying out, and construction work in cabinet making, together with an application to some piece of cabinet work. This course will, like the two preceding courses, prove of exceptional value to those who expect to teach manual training in public and high schools. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 134. *Elementary Carpentry for Rural Communities*. — lessons. — credits. Instructor C. E. Hanson.

This course is designed to give the beginner an opportunity to learn to make things that are useful on the farm and in the farm home, and



requires some degree of skill in handling carpenter's tools. The articles to be made will be arranged in groups and the student will be required to make at least one article from each group. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 135. *Elementary Building Construction.* — lessons. — credits. Prof. E. J. Fermier and Assistants.

This course will give the student instruction in the framing and construction of simple buildings suitable for the farm and rural communities. (This course will be offered if there is any demand for it, and will not be ready before September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 136. *Shop Mathematics.* — lessons. — credits. Prof. E. J. Fermier and Assistants.

This course will give instruction in practical application of mensuration, simple principles of mechanics, etc., with a special reference to machine and shop work. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

COURSE 137. *Gin Equipment.* — lessons. — credits. Prof. E. J. Fermier, Prof. H. E. Smith and Assistants.

This course will cover a study of the cost of installation and care of gin equipment. It will include a thorough discussion of boilers, engines, shaftings, and general transmission equipment, including gins and other machinery usually found in a country cotton gin. This work will be extremely valuable and applicable to any small factory or mill. (This course will be ready September 1, 1915.)

Text: (To be announced at time of availability of course.)

#### *Department of Poultry Husbandry.*

(The following general references may be used by the student for any or all of the following courses):

#### *General References.*

"Principles and Practices of Poultry Culture" by Robinson.

"Poultry Production" by Lippincott.

"Productive Poultry Husbandry" by Lewis.

COURSE 141. *Poultry and Poultry Breeding.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

This course deals with the classification and origin of the different varieties of poultry and includes a detailed description of each variety. This course also discusses principles of breeding, mating and selection. Some attention is also given, in a general way, to egg production, meat production and exhibition methods. (This course is ready now.)

Text: Typewritten lectures.

COURSE 142. *Poultry Houses and Housing.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

In this course the question of housing poultry is thoroughly discussed and a detailed description of various types of houses is given. An ideal poultry house is described carefully and emphasis is placed upon the following topics: Principles of poultry houses, construction, location of houses, form and style of construction, material, cost, adaptability and type. Good and bad poultry houses are contrasted. (This course is ready now.)

Text: Typewritten lectures.

COURSE 143. *Poultry Appliances and Yarding.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

This course deals with the fixtures and appliances necessary in poultry keeping. Among the topics which are thoroughly discussed are the following: Necessary and unnecessary fixtures, roosts, dropping boards, feed hoppers, nests, drinking and feeding utensils and labor saving devices. Special emphasis is placed upon the style and construction of fixtures. (This course will be ready July 1, 1915.)

Text: Typewritten lectures.

COURSE 144. *Poultry Feeds and Feeding.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

Correct feeding is by far the most important factor in successful poultry production. A careful description and analysis of the most common poultry feeds is given in this course and special emphasis is placed upon the feeding value of different feeds, including the best manner of using them in a scientific ration. Efficiency in feeding is also discussed and attention is given to methods of feeding under various conditions. (This course will be ready July 1, 1915.)

Text: Typewritten lectures.

COURSE 145. *Egg Production and Marketing.* 10 lessons. 5 credits. Instructor F. K. Kazmeier.

The specific purpose of this course is to present in the clearest possible manner a discussion of the feeding and management of poultry for profitable egg production. Winter, fall and summer egg production are considered. Among the other topics which are discussed in detail are the following: Digestive system, formation of eggs, the forcing for egg production, cleaning, candling, egg shipping packages, grading and marketing. (This course will be ready August 1, 1915.)

Text: Typewritten lectures.

COURSE 146. *Meat Production and Marketing.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

Designed for the purpose of instructing poultrymen in the possibilities of poultry production for meat, this course deals with the profitable production of broilers, roasters, capons, green ducks, geese, and squabs for the market. Emphasis is placed upon feeding for growth, and atten-

tion is given to the special fattening, killing, icing, packing and marketing of poultry. (This course will be ready August 1, 1915.)

Text: Typewritten lectures.

COURSE 147. *Natural and Artificial Incubation.* 10 lessons. 5 credits.  
Instructor F. W. Kazmeier.

In this course hatching with hens is contrasted to incubation and a general discussion is offered on the production, care and handling of hatching eggs. The care of the broody hen, the operation of the incubator and the testing of eggs are also discussed. Instruction is given on the turning and cooling of eggs and the care of chicks at hatching time. Special emphasis is placed upon moisture and ventilation as factors in incubation, and concrete information is given on construction of incubators and nests. (This course will be ready September 1, 1915.)

Text: Typewritten lectures.

COURSE 148. *Brooding and Feeding of Chicks.* 10 lessons. 5 credits.  
Instructor F. W. Kazmeier.

This course discusses the raising of chicks with hens, including the care of the hen while with chicks. Some attention is also given to coops and runs. Contrasting the raising of chicks with hens follows a discussion pertaining to raising chicks with brooders. The following topics are also considered: Construction of brooders, methods of brooding, rations for chicks of different ages for different purposes and essential factors in brooding. (This course will be ready September 1, 1915.)

Text: Typewritten lectures.

COURSE 149. *Diseases and Parasites, Prevention and Remedies.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

Constitutional vigor in poultry is a very important factor in successful poultry production and a detailed description of the numerous poultry diseases, with their prevention and remedies, should be extraordinarily valuable to every one raising poultry. Poultry hygiene, lice, mites, general poultry vices and general poultry enemies, with means of eradication, are among the topics treated. (This course will be ready October 1, 1915.)

Text: Typewritten lectures.

COURSE 150. *Fancy Poultry.* 10 lessons. 5 credits. Instructor F. W. Kazmeier.

This course is intended for those who are raising fancy poultry for show purposes. The various fancy breeds are described and discussed, and emphasis is placed upon the following topics: Breeding and mating, selecting and handling, preparing for exhibitions, shows and showing, advertising and selling. (This course will be ready October 1, 1915.)

Text: Typewritten lectures.

*Department of Textile Engineering.*

COURSE 151. *Cotton Classing and Grading.* 8 lessons. 4 credits.  
Prof. J. B. Bagley.

This course has been especially prepared to meet the strong demand for expert instruction in cotton classing and grading. It includes a thorough discussion of the different grades of cotton and their marketing values, assisted by a set of government standard cotton grades which accompany the course. The buyer, the merchant, the farmer and the layman are taught how to recognize and value cotton in its different grades, and how to compute the numerous problems in cotton arithmetic. (This course is now ready.)

Text: "American Cotton System" by Miller.

*Special Reference.*

U. S. Farmers' Bulletin No. 501. "Classing and Grading Cotton."

(Laboratory equipment: A set of United States Department of Agriculture Official Cotton Grades is sent with this course, for which an extra charge of \$10 is made.)

**LIST OF BOOKS USED IN CORRESPONDENCE STUDY COURSES.**

(These books may be obtained from any local book store or from the *Book Exchange Store, College Station, Texas*, at the prices listed below, which includes prepaid postage):

Title and Author.	Price.
Agricultural Economics, H. C. Taylor.....	\$1 25
American Cotton System, T. S. Miller.....	1 50
Bacteria Yeasts and Molds in the Home, H. W. Conn.....	1 00
Better Rural Schools, Betts and Hall.....	1 25
Butter Making and Dairy Arithmetic, M. H. Meyer.....	1 50
Citrus Fruits and Their Culture, H. H. Hume.....	2 50
Co-operation in Agriculture, G. H. Powell.....	1 50
Dairy Cattle and Milk Production, C. H. Eckles.....	1 80
Elementary Economics, Ely and Wicker.....	1 00
Elementary Magnetism and Electricity, Jansky.....	1 50
Elementary Entomology, Sanderson and Jackson.....	2 00
Electric Wiring, J. C. Branch.....	2 00
Engineering for Land Drainage, C. G. Elliott.....	1 50
Essentials of College Botany (8th edition), C. E. Bessey.....	1 50
Farm Gas Engines, X. W. Putman.....	1 50
Farm Management, G. F. Warren.....	1 75
Foods and Household Management, Kinne and Cooley.....	1 10
Forage Plants and Their Culture, C. V. Piper.....	1 75
Fundamentals of Farming and Farm Life, Kyle and Ellis.....	1 25
General Biology, J. G. Needham.....	2 00
Principles of Hygiene (5th edition), D. H. Bergey.....	3 00
Insect Pests of Farm, Garden and Orchard, E. D. Sanderson....	3 00
Materials and Methods of Agriculture, W. G. Hummel.....	1 25

Title and Author.	Price.
*Modern Silage Methods, Silver Manufacturing Co.....	10
Nursery Book, L. H. Bailey.....	1 50
Garden Farming, L. C. Corbett.....	2 00
Principles of Fruit Growing (20th edition), L. H. Bailey.....	1 75
Principles of Irrigation Practice, J. A. Widtsoe.....	1 75
Principles and Practices of Poultry Culture, J. H. Robinson.....	2 50
Poultry Production, W. A. Lippincott.....	2 00
Productive Horse Husbandry, C. W. Gay.....	1 50
Productive Poultry Husbandry, H. R. Lewis.....	2 00
Profitable Swine Husbandry, G. E. Day.....	1 50
Rural Economics, T. N. Carver.....	1 30
Sheep Farming, J. A. Craig.....	1 50
Shelter and Clothing, Kinne and Cooley.....	1 10
Soils, C. W. Burkett.....	1 25
Soil Fertility and Fertilizers, J. E. Halligan.....	3 50
Southern Field Crops, J. E. Duggar.....	1 75
Telephony, McMeen and Miller.....	4 00
The Discipline of the School, F. M. Moorehouse.....	1 75
The Teacher and the School, C. R. Colgrove.....	1 25

#### LIST OF BOOKS FOR REFERENCE AND LIBRARY PURPOSES.

The following books can be used to excellent advantage as reference works in connection with many of the study courses. Those that are marked (\*) may be used later on as texts for new courses. The books are arranged in groups to correspond with the grouping of study courses and may be secured from any local book store, or from the *Book Exchange Store, College Station, Texas.*

##### *Agricultural Education.*

*Agricultural Education in the Public Schools, by Davis.....	\$.....
Agriculture for Southern Schools, by J. F. Duggar.....	75
Country Life and the Rural School, by Carney.....	1 25
Elementary Agriculture, by Hatch & Hazelwood.....	50
Elements of Agriculture, by G. F. Warren.....	1 10
First Principles of Agriculture, by Goff and Mayne.....	80
Fundamentals of Agriculture, by J. E. Halligan.....	1 25
High School Agriculture, by Mayne & Hatch.....	1 00
One Hundred Lessons in Agriculture, by A. W. Nolan.....	65
The American Rural School, by H. W. Foght.....	1 25
*The State and the Farmer, by L. H. Bailey.....	1 25
The Teaching of Agriculture in the High School, by G. A. Bricker .....	1 00

##### *Agricultural Engineering.*

Agricultural Engineering, by J. B. Davidson.....	\$1 50
Farm Machinery and Farm Motors, by Davidson and Chase.....	2 00
Ventilation, by King.....	

\*Application coupons for securing this text may be had upon application to the Correspondence Division, College Station, Texas.



*Agronomy.*

Alfalfa Farming in America, by Wing.....	\$....
Cereals in America, by T. F. Hunt.....	1 75
*Farm Manures, by C. E. Thorne.....	1 50
Fertilizers and Crops, by L. L. Van Slyke.....	2 50
*First Principles of Soil Fertility, by Alfred Vivian.....	1 00
Field Crops, by Wilson and Warburton.....	1 50
Forage and Fiber Crops in America, by T. F. Hunt.....	2 00
*Fungus Diseases of Plants, by Duggar.....	2 00
*Soiling Crops and the Silo, by Thomas Shaw.....	1 50
Soil Fertility, by C. G. Hopkins.....	2 50
Soils, by Lyon and Fippin.....	1 75
*Sorghums, by T. A. Borman.....	1 00

*Animal Husbandry.*

*Beef Production, by Mumford.....	\$1 00
*Beginnings in Animal Husbandry, by C. S. Plumb.....	1 25
*Breeding of Farm Animals, by M. W. Harper.....	....
Feeds and Feeding, by W. A. Henry.....	2 25
Judging Live Stock, by Craig.....	1 25
Management and Feeding of Sheep, by Thomas Shaw.....	2 00
*Manual of Farm Animals, by M. W. Harper.....	2 00
*Productive Feeding of Animals, by F. W. Woll.....	1 00
Types and Breeds of Farm Animals, by G. S. Plumb.....	2 00

*Dairy Husbandry.*

Clean Milk, by S. G. Belcher.....	\$1 00
Milk and Its Products, by H. H. Wing.....	1 50
*Testing Milk and Its Products, by Farrington & Woll.....	....
Business of Dairying, by C. B. Lane.....	1 25

*Entomology.*

Our Insect Friends and Enemies, by J. B. Smith.....	\$1 50
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*Extension Service.*

Co-operation in Agriculture, by Coulter.....	\$....
Farm Development, by W. M. Hays.....	1 50
Farmer's Business Hand Book, by I. P. Roberts.....	1 25
How to Choose a Farm, by T. F. Hunt.....	1 75
The Farmstead, by I. P. Roberts.....	1 50

*Horticulture.*

Bush Fruits, by F. W. Card.....	\$1 50
Farm and Garden Rule Book, by L. H. Bailey.....	2 00
*Greenhouse Construction, by L. R. Taft.....	1 50
*Greenhouse Management, by L. R. Taft.....	1 50

Landscape Gardening, by Maynard.....	1 50
Productive Vegetable Growing, by J. W. Lloyd.....	1 50
*Productive Orchardring, by F. C. Sears.....	1 50
Rural Improvement, by F. A. Waugh.....	....
*Spraying of Plants, by E. G. Lodeman.....	1 75
The American Apple Orchard, by F. A. Waugh.....	1 00
Vegetable Growing, by R. L. Watts.....	1 75

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS

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Name of Applicant: Mr., Mrs. or Miss.....  
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If under 21 years, give parent's occupation.....

State the last public school grade you attended and passed, with date  
of attendance .....

What higher schools have you attended?.....

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State briefly the preparation you have had in the subject for which you  
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What is your purpose in taking up the work?.....  
I apply for Reading Courses Nos.

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(Give exact title and number of course.)

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